AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows. This listing of claims will replace all prior listings.

1. (CURRENTLY AMENDED) A force generator comprising:

a first circular member defined about a first axis to define a first inner diameter, said first circular member having a first radius;

~~an~~ a second circular member defined about a second axis to define a second radius, said second radius one-half said first radius, said second circular member movable to simultaneously complete one revolution about said second axis and one orbit around said first axis; and

a mass located at a circumference of said second circular member to generate a vibratory inertial force.

2. (ORIGINAL) The force generator as recited in claim 1, wherein said vibratory inertial force is a sinusoidal inertial force in a straight line.

3. (ORIGINAL) The force generator as recited in claim 1, wherein said path of the mass is two-cusp hypocycloid.

4. (ORIGINAL) The force generator as recited in claim 1, wherein said first circular member comprises a ring gear.

5. (ORIGINAL) The force generator as recited in claim 1, wherein said second circular member comprises a planet gear.

6. (ORIGINAL) The force generator as recited in claim 1, further comprising a crank which mounts said second circular member, said crank rotates about said first axis.

7. (ORIGINAL) The force generator as recited in claim 6, further comprising a motor which drives said crank.

8. (ORIGINAL) The force generator as recited in claim 6, further comprising an opposed circular counter member mounted to said crank.

9. (ORIGINAL) The force generator as recited in claim 1, wherein said opposed circular counter member comprises a planet gear.

10-12. (CANCELLED)

13. (ORIGINAL) A method of force generation for active vibration control comprising the steps of:

(1) defining a circular path about a first axis;

(2) defining a second circular member about a second axis;

(3) locating a mass at a circumference of the second circular member; and

(4) controlling movement of the second circular member about the circular path such that the second circular member simultaneously completes one revolution about the second axis and one orbit around said first axis to generate a vibratory inertial force.

14-17. (CANCELLED)

18. (CURRENTLY AMENDED) A method as recited in claim 13, further comprising the step of:

(5) transmitting the vibratory inertial force of said step (4) to a helicopter fuselage to minimize ~~the~~ a sensed vibratory response to forces from a main rotor assembly.

19. (NEW) A force generator comprising:

a first circular member defined about a first axis to define a first inner diameter, said first circular member having a first radius;

a second circular member defined about a second axis to define a second radius, said second circular member movable to simultaneously complete one revolution about said second axis and one orbit around said first axis; and

a mass located on said second circular member to generate a vibratory inertial force.

20. (NEW) The force generator as recited in claim 19, wherein said vibratory inertial force is a sinusoidal inertial force in a straight line.

21. (NEW) The force generator as recited in claim 19, wherein said path of the mass is two-cusp hypocycloid.

22. (NEW) The force generator as recited in claim 10, further comprising a crank which mounts said second circular member, said crank rotates about said first axis.

23. (NEW) The force generator as recited in claim 22, further comprising a motor which drives said crank.

24. (NEW) The force generator as recited in claim 23, further comprising a controller which drives said motor to control said vibratory inertial force in response to sensed vibratory forces from a main rotor assembly.

25. (NEW) The force generator as recited in claim 1, further comprising a motor which drives said crank.

26. (NEW) The force generator as recited in claim 25, further comprising a controller which drives said motor to control said vibratory inertial force in response to sensed vibratory forces from a main rotor assembly.